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ABSTRACT

This study explored the ways in which state and system financing policies can advance the use of distance learning technologies and the goals outlined in other reports by the Distance Learning Policy Laboratory more effectively. The subcommittee on finance that examined the issue approached the task by establishing a framework that considered: tuition, fees, and charges; funding methods; costs and resource management; and education as commerce. Four case studies were conducted to study centralized, decentralized, mixed, and freestanding governance approaches at the University of North Carolina, The Kentucky Virtual University, the University System of Georgia, and the University of Maryland University College. Based on these four case studies, the Finance subcommittee proposed that plans for distance learning and technology-based instruction should emanate from the overall strategic educational and business plans of the state, system, and institution. Technology should be treated as a core resource and financed accordingly, with a base that is rational and explicit. Fundamental to the establishment and effective use of technology in higher education is support for, preparation of, and continued development of human capital or personnel infrastructure. Nine specific recommendations are made to support these principles. (SLD)

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Using Finance Policy to Reduce Barriers to Distance Learning

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Using Finance Policy to Reduce Barriers to Distance Learning

August, 2002

A report by the Distance Learning Policy Laboratory
Finance Subcommittee

A Report and Recommendations in a Series on
Distance Learning Policy Issues

About the Southern Regional Education Board Distance Learning Policy Laboratory

At its June, 1999, meeting, the Southern Regional Education Board approved the establishment of the SREB Distance Learning Policy Laboratory. Building upon the work of the Educational Technology Cooperative and the *Electronic Campus*, the Policy Laboratory seeks to reduce or eliminate existing or potential policy barriers to distance learning activities in three broad areas: ***access, quality*** and ***cost***. The Policy Laboratory's main objectives are:

- Assessing educational policy issues that are identified as barriers;
- Establishing policy baselines of current practices, procedures and strategies;
- Assisting states and institutions as they develop ways to use technology to improve quality, expand access, and reduce costs;
- Establishing trial or pilot efforts with State Partners to test new distance learning approaches or strategies;
- Promoting state-level policy changes via existing SREB organizational arrangements and agreements;
- Developing and testing agreements among institutions and states;
- Utilizing the regional platform to serve as a clearinghouse for states and institutions to discuss policy issues and concerns; and
- Measuring the implementation of policy changes in the SREB states and widely disseminating the results.

The SREB Distance Learning Policy Laboratory is supported in part by a grant from the United States Department of Education Fund for the Improvement of Postsecondary Education's (FIPSE) Learning Anytime, Anywhere Partnerships (LAAP) program. The contents of this report were developed under the grant but do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. Additional support has been provided by a grant from the Stranahan Foundation of Toledo, Ohio.

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Executive Summary

The purpose of this paper is to examine the ways in which state and system financing policies can advance more effectively the use of distance learning technologies and the goals outlined in other committee reports prepared by the Distance Learning Policy Laboratory.

Despite its pervasiveness, states, colleges, and universities still treat technology as a "special" category and fund it accordingly through special "one-time" appropriations. States and institutions have yet to establish information technology (IT) as a core budget item or embrace models that use technology to reduce costs and increase productivity in the same way the private businesses have, especially in instruction.

The subcommittee on finance approached its task by establishing a framework for examining issues that included the following:

- Tuition, Fees, and Charges: In many situations of technology-based instruction, traditional methods of charging that are based on "seat time" may be inappropriate- or even unworkable. For example, in certain courses or programs, out-of-state tuition, may be a barrier to competitive marketing and hinder achieving a level of enrollment that is economically advantageous.

- Funding Methods: "Life-cycle" funding for technology is critical. Too often technology funding is not correlated with important objectives, and clearly defined accountability reporting is not established. To become a core resource funding methods for technology should also incorporate incentives to support the change process necessary for effective utilization.

- Costs and Resource Management: Good information regarding the costs of technology-based instruction is often not available because "cost accounting" methods are not typically used in educational institutions. The traditional methods and standards for estimating costs usually don't work well for technology-based instruction.

- Education as eCommerce: Increasingly, fundamental business processes of education are handled electronically and education is moving in the direction of eCommerce for core functions. Yet many currently used administrative practices and business policies are not designed to enable this move.

To examine these issues more closely, the Finance subcommittee conducted four case studies representing different governance approaches - Centralized, Decentralized, Mixed, and Freestanding. The cases were The University of North Carolina System, The Kentucky

Virtual University, the University System of Georgia and the University of Maryland University College.

Guiding Principles and Subcommittee Recommendations

An overarching observation regarding all of the policy issues is the influence of a state's major educational objectives in directing the purpose for and use of educational technology. And, because institutions and systems too will differ in their goals for distance learning and technology-based instruction, finance policies will need to follow from those objectives and strategies. For example, states that are primarily concerned with expanding access and convenience are likely to put more emphasis on infrastructure and program development. Those concerned with improving the cost-effectiveness of services may emphasize central utilities or outsourcing. Those primarily concerned with on-campus qualitative improvements may emphasize faculty training and course redesign.

Moreover, it is apparent that the primary cost factors driving technology initiatives can be found in the people costs, not those for hardware or software.

The Finance subcommittee proposes the following general principles for financial policy for educational technology:

- Plans for distance learning and technology-based instruction should emanate from the overall strategic educational and business plans of the state, system, and institution. Finance plans to implement these goals should be an integral part of such planning.

- Technology should be treated as a "core resource" of the state or educational system and financed accordingly.

- Technology policy should move to a base that is clearly rational and explicit; inconsistencies and variations to "regular" finance policies should be minimized.

- Fundamental to the establishment and effective use of technology in higher education is support for, preparation of, and continued development of human capital or "personnel infrastructure."

Specifically, the subcommittee makes the following recommendations:

> Recommendation 1: State finance policies should be adjusted to recognize the need for up-front and long-term investments that will sustain technology-based instructional programs.

Recommendation 2: States and institutions should make "e-business plans and transactions" a high priority.

Recommendation 3: State or system financing policy should promote and provide incentives for multi-institutional collaborative programs including cost and revenue sharing.

Recommendation 4: To gain economies of scale, states, systems and voluntary consortia should pursue centralized services spanning multiple institutions.

Recommendation 5: State and system financing policy should accommodate new staffing patterns that are emerging in technology-based instruction.

Recommendation 6: States and institutions require good information on technology costs for decision-making and must establish appropriate means for collecting and comparing this information.

Recommendation 7: State policy should provide institutions with the flexibility to make pricing decisions based on a business plan that reflects purpose, market, and knowledge of cost implications.

Recommendation 8: Accountability should be a specific aspect of the plan for technology implementation and should be incorporated in the request for funding. Technology funding must be seen as an ongoing investment.

Recommendation 9: SREB, through the Educational Technology Cooperative and Distance Learning Policy Laboratory, should continue the work of the case studies by undertaking a formal, in-depth analysis of how each state in the region finances technology and support for technology-based instruction, and should report and update these findings on a regular basis.

Introduction

The purpose of this paper is to examine the ways in which state and system financing policies can advance more effectively the use of distance learning technologies and the goals outlined in other committee reports prepared by the Distance Learning Policy Laboratory.

Given that the lines of demarcation have all but disappeared between what has been called "distance" learning and technology-based, classroom-based instruction, the findings of this study are particularly relevant to the evolution within postsecondary education. Furthermore, as many states and institutions face significant reductions in budget allocations, the ability to finance, purchase, and maintain technology becomes increasingly important. The need for strategic financing of distance learning and technology-based instruction is critical as state policymakers struggle to fund other important categories, particularly rising healthcare costs. After a number of years significant funding for technology in education, legislators are beginning to ask what has been achieved and what states can expect in return for their continued investment.

The use of technology in postsecondary education has evolved over time, continually playing a larger and larger role in both instructional and administrative functions. At first, computers were restricted to research purposes only, but they soon found their way into administrative systems. Microcomputers and new software then began to support experimentation with technology-based instruction and instructional tools. Until this point, traditional financial models could accommodate expenditures for technology with only occasional exceptions. But over the past decade, the development of wide area networks has brought a much greater potential to distance learning. By providing access to educational resources well beyond anything previously available, doors to alternative modes of instructional delivery are being opened. The rapid rate of these technological advancements has transformed education, bringing technology to the center of almost all aspects of teaching and learning, from instructional design to course evaluation.

Despite its pervasiveness, states, colleges, and universities still treat technology as a "special" category and fund it accordingly through special "one-time" appropriations. Although each academic term students are asked consistently to pay fees to offset the costs, states and institutions still treat technology as an "add-on" cost rather than a recurring expense. Many states and institutions have yet to establish IT as a core budget item or embrace models that use technology to reduce costs and increase productivity in the same way the private businesses have, especially in instruction. Colleges and universities will soon have to be changed to accommodate their growing reliance on information systems (Matthews, 1998).

The pervasive use of technology in instruction changes the fundamental nature of how colleges and universities conduct business, yet many institutional leaders and policy makers do not have a solid information base on which to make financial decisions about technology and support. Budgeting schemes of formula-based funding, cost recovery, and capital depreciation that were established many years ago for a completely different approach to

delivering instruction persist, but cannot accommodate the serious transformation in education brought about by modern technology. This model is built around the assumption that a group of students will meet in a classroom with an instructor on a fixed schedule for a specified time. Tuition and fees, academic credits, etc., are all typically based on this metric, and pricing has been packaged "as a whole" rather than "unbundled." Variations for other formats, such as distance learning and independent study, were handled as exceptions and generally translated into a supposedly equivalent measure. Yet, the flexibilities of time and place introduced by distance learning increasingly make the old metric an inadequate tool. New methods and new policies are needed as technology-based instruction becomes more mainstream.

For example, the cost structure for distance learning is substantially different from traditional classroom-based instruction in which the highest costs are in faculty salaries and support services—costs that are predictable year after year with only small increases to account for inflation. In technology-based delivery of education, a significant initial investment must first be made to purchase hardware and create the courseware, and then apply operating expenses to maintain or update the technology over time. The costs should decrease each time the same course is delivered. Rather than treating development costs as capital investments, states and institutions often treat these development costs as "operating" expenses through the application of traditional budgeting practices. It is difficult to fit development costs into traditional classroom funding models because they cannot accommodate both fixed and variable costs. And, since the technology-based approach does not progress along a traditional fiscal calendar with revenue trailing the initial investment, the budget process is often distorted. States, therefore, will have to move from short-term, cost-based funding to long-term investment in course development (Matthews, 1998).

Furthermore, typically imbedded in funding categories are legal regulations that limit spending in any other areas. In most public educational systems, for example, there is a dedicated revenue stream of budgeted funds to support buildings and facilities that can be spent only for construction. If distance learning is to become a legitimate portion of an institution's enrollment plan, it will require less "brick and mortar" and greater flexibility and authority to disperse allocated funding according to individual campus needs. Today, financial decisions are increasingly subject to compressed development cycles and endless demand for more and better hardware, software, and network bandwidth (Olsen, 2001). Changing longstanding approaches to funding policy will be difficult and challenging, but changes are critical to the future development of distance learning and student access to postsecondary education.

Subcommittee Goals, Scope and Assumptions

The goals of the Finance subcommittee and this report are to:

1. Establish context for policy structure;
2. Provide background for policy rationale;
3. Derive guidance from case studies;
4. Provide insight into the strategic, operational, and tactical challenges from which policy will evolve; and
5. Recommend general policies, where appropriate and possible, and guidelines in other cases.

The subcommittee believes that financial polices of state and system boards should be fully supportive of, and present no significant barriers to, optimum use of technology that extends access and improves the quality of services in postsecondary education. However, the manner in which governance of higher education is structured in a state obviously will determine, or strongly influence, responsibility and authority assignments. In turn, these assignments will influence the policy structure, including finance policy, at various levels of the educational system. For example, one might expect stronger and more specific finance policies at the state-level with a governing board than with a coordinating board. Also, where a state virtual university is supported one might expect state level policies to differ from those in which there is no state virtual university.

Scope and Limitations of Study

The work of the subcommittee and this report include finance policy considerations related primarily to technology-based educational activity and services - not research, administration, or public service. While the primary motivation is distance learning, policy and programs of a statewide scope which may overlap traditional education also are considered.

One primary aspect of finance policy involves fiduciary responsibility; this paper does not deal with that aspect. Other aspects of finance policy involve support of educational programs and administration of the system and this paper deals with these aspects of finance policy. Thus, it is assumed that these aspects of finance policy can and should be shaped and reshaped to meet the needs of educational goals and programs.

The study approach is based on data gathered from four case studies conducted in 2002 and summarized in this paper. In addition, the preliminary findings of the study were discussed in a joint meeting held with the Western Cooperative for Educational Telecommunications (WCET) in May 2002. The papers, presentations and other materials can be found at http://www.wcet.info/events/tcm/presentations.htm.

Framework of Finance Issues

The subcommittee developed a framework of financial issues as a starting point for its investigation. The major elements of that framework:

Tuition, Fees, and Charges: In many situations of technology-based instruction, traditional methods of charging based on "seat time" may be inappropriate or even unworkable. Out-of-state tuition, for example, may be a barrier to competitive marketing and hinder achieving an economical level of enrollment in certain courses or programs. Among the policy questions are;

- If the costs of technology-based instruction differ significantly from traditional courses, should tuition be different?
- Should policies be more flexible to allow institutions to address different markets more effectively through technology?
- Should fees continue to be "bundled" even when certain services are unavailable or inappropriate for distance learning students?

The answers to such questions will depend upon the goals of the entity addressing them. The point is that technology brings about changes that result in these questions needing fresh answers.

Funding Methods: The common approach of funding significant technology expenditures from one-time sources presents many challenges. Multiple sources of technology funding (such as capital funds for equipment expenses and operating funds for service expenses) may be needed to address the various elements of technology utilization. "Life-cycle" funding for technology is critical if it is to become a core resource. Technology funding often is not clearly correlated with important objectives, and clearly defined accountability reporting has not been established. Funding methods should also incorporate incentives to support the change process necessary for effective technology utilization.

Costs and Resource Management: Good information regarding the costs of technology-based instruction is often not available. "Cost accounting" methods are not typically used in educational institutions and traditional methods and standards for estimating cost usually do not work well for technology-based instruction. Many issues arise in situations of technology-based instruction involving multiple providers, instructional teams, varying term lengths, the need to amortize some costs rather than treating them as annual expenditures, etc.

Education as eCommerce: Increasingly, fundamental business processes of education are handled electronically. Education is moving in the direction of eCommerce for core functions, and yet many of its administrative practices and business policies are not designed to enable this move. Students of the "information age" are accustomed to services and administrative functions being available "24 x 7" with prompt response from service

providers. With the convenience of their desktops, they expect to be able to conduct multiple transactions in a single procedure. Yet, according to Green (2001), more than 70 percent of colleges and universities cannot process credit card payments over the Internet, and 45 percent do not offer online registration.

Many commentators argue that the use of technology will cause the education industry to operate more in a market environment than a regulatory environment. To what extent should finance policies reflect, anticipate, and support these moves?

Definition and application of well-coordinated enterprise solutions to provide or strengthen campus core services will move from two directions at once. The first direction is from the classroom, the second from auxiliary services. The transition from the traditional "bricks and mortar" financial philosophy, positioning technology as a "bolt-on" component in the classroom, will meet the business plans of the capital outlay professionals squarely in the middle of the realization that technology is a core component of successful operation of the postsecondary education enterprise. This "meeting of the minds" must be both anticipated, and embraced as a financial planning factor.

Case Studies

To determine the context of current policy operating in the South, the subcommittee undertook a series of case studies in selected states. These cases were chosen primarily to show the contrast in approaches based on four different models of distance learning delivery structures. These included:

1. *Decentralized.* A decentralized approach to distance learning allows individual institutions in the state to offer their own degree programs through their own campus or university;
2. *Centralized.* A centralized approach has a statewide central portal through which different courses and programs are offered by different institutions in the state;
3. *"Mixed."* A mixed approach may involve a combination of any of the above variations; and
4. *Freestanding.* A freestanding distance learning venture is a "stand alone," accredited institution that grants its own degrees and provides its own student services.

Four cases, each representing one of these structures, were intensively reviewed via focus groups and formal interviews.

- The University of North Carolina System (UNC) — *Decentralized*
- Kentucky Virtual University (KYVU) — *Centralized*
- University System of Georgia (USG) — *Mixed*
- University of Maryland University College (UMUC) — *Freestanding*

The findings from these cases are summarized below.

The University of North Carolina System (UNC System)

The UNC System operates under a Board of Governors (BOG) that exercises general policy and fiduciary control, but the predominant philosophy is decentralization allowing institutions to pursue their approved individual missions with minimum direction and control. The BOG also aggregates and integrates information providing an interface between institutions and the state legislature.

Institutional autonomy is maximized as much as possible within the overall goal of serving the "public good" of the state; financial policy at the UNC System level has been true to this historic mission. As a result, the deployment and use of technology have been accomplished primarily in a decentralized fashion. For the most part, the institutions are handling financial matters individually or in voluntary collaboration.

In spite of the traditional philosophy of decentralization, the UNC System's Office of the President has been able to establish several central funding initiatives to support administrative systems, student services, and teaching and learning with technology. The Office is also attempting to create selected central services and to facilitate and coordinate collaboration among institutions on technology-based projects. In this way, significant progress has been made through the voluntary collaboration between the Office of the President and the participating institutions.

For the most part the traditional method of funding, wherein funds flow from the legislature directly to the institutions, which are then free to make their own decisions regarding programs and the use of technology, is deemed to have worked well. In addition, the $3.2 billion construction bond program of 2000 permits funds to be used for IT infrastructure, allowing many campuses to build an environment to support e-learning.

In spite of this success, a number of issues and challenges have been identified:

- *Multi-institutional Collaboration*: Some technology-based systems and programs will need multi-institutional collaboration to bring about economies of scale. Modifications of the traditional funding methods and organizational methods will probably be required for these purposes. The need for additional central IT services is currently being evaluated in the UNC System. Support has coalesced around the need for two central systems: an online library and a statewide network. The same need for collaboration may occur in other areas.

- *Tuition and Fee Policy*: Traditionally tuition is charged on a step method, up to a cap. Distance learning, however, is charged on a straight per credit hour basis, with no cap. These differences will be increasingly problematic, as technology-based instruction

becomes more mainstream. In view of the mission to serve the public good of the citizens of the state, tuition is to be kept as low as practicable for state citizens; non-resident tuition must meet full costs. Distance learning, not yet considered critical to the mission, must meet the same tuition rules, and is considered voluntary to the institutions. Competition from private and outside providers is recognized as a potential threat to some of the traditional tuition policies, and may lead to changes in tuition policies in the future, depending upon the purposes being pursued.

At this point, fees for distance learning students are very problematic within the System. Should students be able to choose and pay for only the services they want and need? Should they have access to all services available to on-campus students? Should fee charges for distance learners be the same as for on-campus students, or should they reflect actual costs, which may be different? If multiple campuses are involved, how is fee income shared? Campuses are currently allowed to establish their own fee policies for distance learning. As distance learning activity continues to grow, a better-coordinated structure for fee administration will likely be required, which will no doubt affect System financial policies.

- *Faculty Workload:* To a certain extent faculty were "set up" to view distance learning as extra-ordinary by the previous practice of handling such courses as continuing education, for which extra compensation was expected. Technology-based instruction, including distance learning, should be brought into the mainstream and treated as such in terms of expectations and policies.

- *Legislative Funding.* In some ways, technology-based instruction is treated as "extraordinary" activity outside the mainstream funding mechanisms. The "enrollment change method" used for distance learning programs is one indication of this. Unlike other programs, which are funded institutionally, distance learning programs are funded on a programmatic basis; funding is explicitly tied to enrollment and periodic accountability reports must be submitted showing the actual enrollment achieved. Continued funding is thus dependent upon meeting the enrollment objectives. This level of programmatic accountability may lead institutions to avoid taking this path because of the increased legislative scrutiny relative to traditional methods of instruction.

- *Measuring Costs:* The System has challenges with measuring costs and changes in enrollment and access, as legislatively required for funded distance learning programs. The requirement for such measures by other decision-makers as well as the legislature may be expected to increase as technology brings on increasing resource and change decisions.

- *Productivity:* The Office of the President is also aware of several issues involving expectation and perspective that affect decisions involving the use of technology. For example, technology is often funded with the (possibly unstated) assumption that one of

the significant long-run effects will be improved productivity and cost effectiveness. Legislators may expect such results based upon their experience with or knowledge of improvements from the use of technology in the business world.

Conclusions: Increasing central technology services and collaborative technology-based projects are needed to achieve reasonable economies-of-scale and to support emerging educational service objectives enabled by technology. Changes in the policy structure will undoubtedly be required to accomplish these goals while still providing institutions with a desired level of autonomy. The appropriate level of funding for central services, methods of funding and cost sharing for multi-institutional collaborative programs, and special funding for technology-based instruction will be among the policy issues that must be addressed. While these issues are common to other states and other situations, the financial policies are likely to continue to reflect the UNC System's traditional deregulated approach for the foreseeable future.

The Kentucky Virtual University (KYVU)

Kentucky Virtual University provides an example of an approach emphasizing central planning and coordination for certain statewide objectives, and funding for central support services through special state appropriations. Like other higher-education portals in the South, KYVU serves an important role by providing courses and programs from various Kentucky institutions that can be taken after work hours and without having to travel to campus. KYVU has also provided an essential infrastructure that allows institutions to provide distance learning delivery at low or no cost to their budgets. The virtual library and adult literacy initiative, for example, are obvious assets to students and citizens in the state. Thus, The Kentucky Council on Postsecondary Education, through KYVU, is playing a critical role in the economic development initiatives and has put new energy and commitment behind the efforts to overcome the substantial problem of low levels of literacy in the state.

A centrally supported course management system has been less enthusiastically received, however. Only the community colleges are important users. Moreover, both tuition policies and campus limitations on class size are significant constraints on expanding Internet enrollments and providing additional revenue to sustain the centralized utility functions of KYVU and the virtual library.

A number of ongoing financial issues were identified.

- *Special Funding versus Base Budget* - In the area of technology funding, Kentucky appears to have struck a balance between one-time funding for technology and incorporation of technology costs into operational budgets. By financing relatively short-lived equipment purchases through borrowing and then expecting institutions to cost-share the debt service, the state took significant steps toward "regularizing" technology expenditures. In

2002-03, however, in recognition of other technology cutbacks, debt service costs were transferred to the state, appearing to demonstrate the vulnerability of this approach to changing budget and political priorities.

- *Tuition Caps - A major financial constraint, but a boon to online enrollment* - Public institutions in Kentucky have all established tuition caps, which means that once students reach full-time status, additional courses may be added at no additional charge. This apparently has been a major incentive for full-time students to add online courses to their schedule, but it presents a distinct financial problem for the institutions and KYVU. As one participant noted, there is little opportunity for revenue-sharing with KYVU when there "is no revenue to share." Beginning with the fall 2002 term, The Kentucky Community and Technical College System will raise its tuition cap from 12 hours to 15 hours (that is, students will pay a per credit charge up to 15 hours and a flat rate above this load). None of the universities made a similar move.

  The method of handling tuition caps has resulted in a disconnect between students' use of online courses and the allocation of resources to share them. If the "extra" online course is handled by the institution, presumably the institution uses the total tuition collected to support all courses, including the online course. If the "extra" online course is handled by KYVU, then the institution is in a position to say that it has no resources to share, since there is no incremental revenue. But how does one know which course is the "extra" course? Apparently a more specific business agreement is needed.

- *Central Utilities - Can they be self-supporting?* As originally conceived, after initial state funding, KYVU was expected to generate a significant amount of non-appropriated revenue. But in 2001-02, this assumption was being questioned by Council staff and the legislature will be asked for continuing support for both the virtual university and virtual library. KYVU has only just begun to search for sources of revenue outside the system and, given institutional resistance, has no immediate plans to institute a charge-back or revenue-sharing arrangement. Kentucky staff indicated that the lifting of the tuition cap could generate additional revenue from students who, under current policy, are essentially taking that extra Internet based course free. More important, campus models for delivery would need to change significantly to generate additional revenue to pay for the centralized services. Limits on class size (25 to 1 is the average student-faculty ratio) would problably have to change. A view of a more limited potential for e-business models may reflect the current climate *outside* of higher education where venture capital has dried up and a number of high visibility for-profit start-ups in higher education - New York University and the University of Maryland University College, for example - have been abandoned.

  The appropriate method for long-term funding of the central utilities (KYVU and the virtual library) remains to be resolved. If the state does not to continue to fund them essentially as an extra educational cost, there will need to be charges to the users

(institutions and/or students) or other offsets or reallocations made within higher education. This issue will probably be found in most states.

- *Incentives for Institutional Participation:* The incentives for institutional participation have been only modestly successful. Only a single sector—the community colleges—have fully embraced the opportunities provided by KYVU. As originally conceived, KYVU was viewed as an initiative aimed at the regional universities. Their participation remains modest, however. Kentucky staff pointed to the problems of inter-institutional collaboration and the lack of incentives for importing curriculum. To date, KYVU has operated under the principle that Kentucky citizens "should be served by Kentucky products first." This may change in the future as the state considers regional listings and invites more national providers to have access to its network, as it has recently with the MBA program at the University of Baltimore.

Conclusions: Distance learning and technology-based instruction are seen at the state level as critical to meeting the educational needs of Kentucky, as evidenced by the special funding and structures just described. However, the colleges and universities of the state vary significantly in priorities and approaches to distance learning and technology-based instruction. The linkages between KYVU and individual institutions, in terms of policies and operations, depend primarily upon incentives and voluntary participation. One could assume that this has affected the potential for early resolution of issues and progress toward stated goals.

The University System of Georgia (USG)

The University System of Georgia, comprised of 34 public colleges and universities, is a unified system under the central authority of the Board of Regents. The Board has 16 members, one each from the 11 Congressional districts and five at-large members; all are appointed by the Governor and confirmed by the state Senate. The Board sets policies concerning institutional missions, tuition and mandatory fees, personnel, finance, facilities, and academic activities. The Board approves all faculty appointments and tenure awards and establishes guidelines for faculty salaries and evaluations. The Board of Regents operates under separate constitutional authority, which gives the Board the power to; create public colleges and universities; accept state appropriations in a single lump sum for allocation to its institutions; hold, purchase, lease, sell, and convey public property; and accept donations, bequests, gifts, and property for use by institutions within the University System.

The system's approach to distance learning and technology-based instruction represents a mixture of centralized and decentralized methods and policies. The System has been aggressive in establishing central programs, support services, utilities, and funding for technology initiatives. At the same time, the institutions of the USG maintain primary prerogative in their choice to participate and/or to pursue other programs of their own. Since the Board of Regents of the USG is a strong form of governing board, the Board staff

has significant influence and coordinating authority - more than in many other state systems.

Several USG technology-based initiatives hold promise as models for other states in the region. The eCore pilot program, which has established a process for collaborative course development and delivery, revenue-sharing agreements, and electronic tuition rates that do not distinguish between in- and out-of-state students are positive examples of innovative funding practices. In addition, the efforts of the Advanced Learning Technologies unit to promote the adoption of a single course management tool and common design standards is an effective strategy in controlling course development, delivery, and support costs throughout the state. GALILEO, the state's integrated online library system, has been a model for statewide cooperation and access throughout the nation. Although funded as a "special initiative" from its inception, there is no plan at this time to convert it to "regular" funding. Still, there is no question that support for GALILEO will be continued, given its effectiveness in expanding access to online collections and resource sharing among colleges and universities.

Other commendable efforts include Georgia Global Learning Online for Business and Education (GLOBE), which is working to address state needs outside of traditional education services. GLOBE is able to position the System for economic development opportunities and corporate education needs and to encourage collaborative and entrepreneurial partnerships.

In spite of its relative advantages in central organization strength and successes in pursuing central initiatives, the USG still faces many of the same policy issues found in other states. Some of these issues include:

- *Cost and Revenue-Sharing.* While the eCore pilot program established a process for revenue and cost sharing in collaborative course development and delivery, systemwide policies and procedures have not yet been established for other programs.

- *Tuition Policy and eRates.* In 2002, the Regents adopted the recommendations of SREB and established a permissive policy of tuition-setting by institutions for distance learning. Institutions are now free to set tuition independent of a student's geographic location. The WebMBA and eCore were pilots in setting electronic tuition rates. Neither distinguished between in- and out-of-state tuition rates. The challenge now will be how institutions respond to this deregulated environment.

- *Reliance on Special Funds.* The long-run support of technology initiatives initially supported by special funding from the state is an unresolved issue for USG. Such funding, which is often considered "one-time" even if repeated, is obviously more vulnerable to changes in state budgets and priorities. There are no established policies

and procedures for bringing such initiatives under the USG's normal (formula-based) appropriation process.

- *The Funding of Central Utilities:* The funding policies of the statewide network and virtual library by the USG do not present quite the same issue as in some other states. The Board of Regents receives a "lump sum" appropriation, which it then allocates to the institutions on its own decision. The BOR can handle decisions to fund central services and utilities without having to get approval from the legislature, and it has done so. Even so, how to manage the funding in relation to funding allocations to the institutions and involves issues of institutional choice, charges, priorities, etc.

- *Budget Cutbacks:* The looming decrease in the state budget will have a significant impact on funding for the University System of Georgia. These cuts, coupled with the continuing reliance upon a formula that does not fully recognize the cost of technology and lottery support present substantial challenges for the system. While lottery proceeds have continued to increase and have been used effectively to support educational programming at all levels in Georgia, the level of lottery support first devoted to education technology has not increased. Further, these funds are subject to revocation as a "one-time only" source of revenue.

- *Funding Formula:* The introduction of a technology factor in the funding formula offers the promise of producing appropriation levels that are more consistent with the use of technology as well as enrollment growth. But, it currently is a low-level factor in the formula, generating only $22 million to $25 million in state appropriations in a total formula budget that exceeds $1.5 billion. Additionally, since it is folded in the total budget generated by the formula and, therefore, subject to budgeting at the institutional level according to local needs, such funds may or may not be used to advance technology-based programs and services. Moreover, funds included in institutional base budget formulas may reduce the amount available for system-level initiatives.

Conclusions The University System of Georgia needs to develop a funding model to assure a consistent stream of support for technology and also looks forward to how technology needs may change in the future. An in-depth study of costs and needs at the institutional and system levels would greatly benefit possible future efforts to adjust the current technology factor in the formula and/or to address technology-based instruction as a separately funded instructional activity. How institutional technology fees are used to supplement state support while ensuring they continue to meet specific student needs should also be given further consideration if the system moves to a different funding model.

The University of Maryland University Campus (UMUC)

Unique in the SREB region, UMUC is one of a small number of institutions nationally, indeed internationally, conceived and focused on serving adult learners, - a mission it has carried out for more than 50 years. While a leader in "distance learning" for many years, UMUC sees technology as simply a means or a "vehicle" for carrying out its mission. Offerings include a blend of traditional courses on the Adelphi campus, broad off-campus operation on military bases in Europe, and more recently, an extensive Internet-based program.

Unlike many institutions, with a continuing education unit that serves as the mechanism for reaching adult learners, the entire UMUC operation is designed for outreach and does so with a variety of programs, support services, and organizational structure unlike most colleges and universities in the United States. The strategies of this "freestanding" institution can be useful and instructive in the case studies on finance. While unique in many ways, the financial factors at UMUC are not dissimilar to many autonomous continuing education operations and some state virtual universities.

The UMUC is largely self-supporting, with only a nominal amount of state funding. It selects markets to pursue and devises strategies to address those markets, including setting tuition and fees to meet costs and suit the market. Generally, its offerings are priced relatively low, especially when compared to private providers. Revenue is kept within UMUC, without a requirement to share with other state units.

More than 50 percent of UMUC's enrollment is online. To ensure the capability of full interaction, enrollment in each course is limited to 30. Full-time faculty is 25 percent of total faculty; the remainder is adjunct. Faculty are not expected to do research and publish. All faculty are trained in online teaching. The department sets course objectives, texts, etc., and a centralized course development model is followed. Fully integrated support services are provided for students and faculty.

The state has developed a legal framework intended to allow UMUC (and presumably others) to implement more business-like methods for delivering educational services in certain situations; this has been very advantageous. Still, certain difficulties are encountered that inhibit UMUC's capabilities. For example, federal financial aid rules reportedly discouraged the implementation of a for-profit business model.

UMUC has developed its own learning management system, since it believes current products on the market do not adequately address its focus on adults and distance learners. The expense and difficulty of maintaining and updating this software, along with anticipating certain market opportunities, is causing UMUC to consider commercializing this software.

Conclusions: UMUC's success in providing programming designed to meet the needs of adult learners is nationally recognized. Its efforts in online learning have had remarkable growth, demonstrating the strength of programming and level of support UMUC provides learners. Still, for UMUC to realize its broader goals of becoming an international or global university, a number of challenges and issues to be dealt with lie ahead:

- Competition from other online providers;
- Restrictions within federal financial aid policies;
- Managing technology costs;
- If and how to respond to state needs with efforts that probably would not be self-supporting;
- In the absence of venture capital, what changes should be made in state funding guidelines to better support UMUC's mission; and
- Should mode of delivery be considered in the funding formula.

Findings and Conclusions from the Case Studies

Despite the apparent differences in approach and structure, the four cases reveal several commonalities. These general conclusions, at the "30,000-foot level," help to set the context for and define the set of principles and recommendations that follow.

First, with the exception of UMUC, across the cases technology and distance learning are treated as a "special activity," outside of mainstream instruction. Treating technology as special retards its full integration into a state's or institution's overall mission, strategic planning, and business model.

Second, all four cases reveal that achieving "economies of scale" remains an illusive goal. Examples of collaboration exist, but widespread agreement has not been reached on which services should be outsourced or provided centrally at a statewide level.

Third, none of the case states has granted its institutions full responsibility to use state subsidies in a flexible manner, such as allowing reallocation of funds between expenditure categories, to meet its individual and particular needs. This inflexibility strangles institutional efforts. However, in both the Georgia and Maryland cases, certain levels of flexibility are emerging. In Georgia, the Board of Regents has used its authority over allocating funds to establish central services supporting technology and distance learning, for example, the eCore and Web MBA initiatives. UMUC enjoys more flexibility and autonomy to use and apply funds as it sees fit than other participating states due, in large measure, to limited state subsidization and operating in a business model closely aligned to a cost recovery. However, eCommerce models and strategies are not prevalent in any of the case states.

Finally, the cases again point out the uniqueness of each state's structure, organization, and funding approaches and priorities. At the same time, there also were strong similarities and concerns about how to be use technology to create greater access, to meet state and individual citizen needs, and to embrace technology as a means to accomplish a variety of goals. On this last point, the Finance subcommittee believes that the South shares a common goal and a thoughtful and forward-thinking policy construct can be developed from this common purpose. Toward that end, the following guiding principles are presented and a specific set of recommendations made.

Guiding Principles and Subcommittee Recommendations

Several general principles and findings can be taken from the case studies, Finance subcommittee deliberations, the DLPL/WCET Costing and Finance Conference, and other sources. These principles are described below as background for a general understanding of the policy area involved and resulting subcommittee recommendations. An overarching observation regarding all of the policy issues is the influence of a state's major educational objectives in directing the purpose for and use of educational technology. And, because institutions and systems will differ in their goals for distance learning and technology-based instruction, finance policies will need to be follow from those objectives and strategies. For example, states that are primarily concerned with expanding access and convenience are likely to put more emphasis on infrastructure and program development. Those concerned with improving the cost-effectiveness of services may emphasize central utilities or outsourcing. Those primarily concerned with on-campus qualitative improvements may emphasize faculty training and course redesign.

Moreover, it is apparent that the primary cost factors driving technology initiatives can be found in the people costs, not those for hardware or software. A recent Lumina report (Phipps and Whitman, 2001) described these elements as "personnel infrastructure" and called the infrastructure "the human resources necessary for the efficient operation of the overall technology infrastructure...(including): 1) network management; 2) training and technical assistance; 3) course content and development; 4) administrative support; and 5) student support services related to technology-related instruction." Without these "essential elements...the system would grind to a halt." Jones and Matthews (2002) put it more succinctly: "States need to understand that the major costs of instructional delivery and provision of student services will continue to be people costs—not the costs of technology.

Technology is increasing and changing the nature of competitive forces in the education market. The educational provider industry is also growing, changing, and becoming more diverse and competitive. Responses to these changes have implications for finance policy as it becomes evident in that methods developed for the traditional market will not be sufficient for the emerging one. New policies and methods must be considered for the new approaches. Flexibility to allow a variety of approaches to delivering education will be needed.

The Finance subcommittee proposes the following general principles for financial policy for educational technology:

- Fundamental to any distance learning or technology-based instruction initiative is that actions should emanate from the overall strategic educational and business plans of the state, system, and institution. Finance plans to implement these goals should drive or support the mission and be an integral part of such planning.

- Technology should be treated as a "core resource" of the state or educational system and financed accordingly.

- Technology policy should move to a base that is clearly rational and explicit; inconsistencies and variations to "regular" finance policies should be minimized.

- Fundamental to the establishment and effective use of technology in higher education is support for, preparation of, and continued development of human capital or "personnel infrastructure."

Subcommittee Recommendations

While a large core of finance policy related to distance learning and technology-based instruction is relatively common across all types of governance structure, there are some significant differences. Despite these differences, and with appropriate adaptation to their individual circumstances, the subcommittee believes that all states and systems would benefit from applying the recommendations below.

> *Recommendation 1: State finance policies should be adjusted to recognize the need for up-front and long-term investments that will sustain technology-based instructional programs.*

In many cases, the pattern of expenditures needed for technology as a core resource in instructional programs resembles the pattern for facilities, except on a much shorter life cycle. For example, developing and installing communications networks, whether in a building, covering a campus, or across an entire state, involve capital expenditures that might be paid for over multiple years and ongoing operating and maintenance expenditures that must be budgeted, just as with buildings and other physical facilities. These same financial considerations also apply to the development, installation, operation, and maintenance of other technology-based resources for instruction, such as a web-course.

Traditional finance and business policies often do not handle these needs of technology-based instruction or centralized services adequately. For example, "capital funds" are typically not available for such purposes, so "up-front" investments often must be absorbed in the initial time period. This can limit the ability of an instructional unit to deploy

technology-based instruction in a significant and comprehensive manner. Also, state-level central services, such as educational networks, are typically funded by special appropriations, which may not convert to regular treatment as a core resource of the educational enterprise. Consequently, these central services are often affected by funding priorities and limitations that don't necessarily reflect the needs or choices of the educational enterprise.

Better methods of handling these up-front and long-term investments for technology-based instructional programs are needed. This could include state or system "venture capital" funds for program development and internally budgeted funds to cover start-up costs with payback from revenue sources as they develop. Most important, higher education leaders need to "get the message right" so that legislators and state policy leaders clearly understand the advantage of a long-term plan of technology investment that addresses revenues, funding needs and pricing strategies.

Recommendation 2: States and institutions should make "e-business plans and transactions" a high priority.

Green (2001) documents the rapid growth of e-business across higher education; this is confirmed by the case studies conducted for this report. The e-Learning revolution that is driving expenditures in the classroom (both virtual and traditional) requires an upgrading of support services. In addition, both internal and external "customers" demand transactional immediacy when it comes to finding and receiving services from campuses. From registration to utility management, the higher education enterprise is rapidly evolving into an organization focusing more on customer needs than institutional needs. E-business transactions, and the associated human and technical infrastructure, are increasingly seen as an operational investment rather than a one-time grant or state-funded initiatives.

While the appropriate business models for traditional instruction are long-standing and well understood, this is not the case with technology-based instruction. It appears that in many cases the traditional business model and educational plan is assumed, without serious analysis, to be appropriate - or at least acceptable. This can lead to poor planning and often to failure of the endeavor.

Recommendation 3: State or system financing policy should promote and provide incentives for multi-institutional collaborative programs, including cost - and revenue - sharing.

Establishing systemwide guidelines and procedures for revenue-sharing is a necessary first step to promoting collaboration. Without such advance policies, each case must start from scratch, which can discourage such programs. Current policies favor the credit-grantor and discriminate against those partners who provide important instructional and student support services to the distance learners. Nor are there adequate financing mechanisms for financing up-front investments and amortizing them over time, and funding multi-member instructional teams. Traditional policies also may lack the incentives needed - and sometimes actually may include disincentives - for faculty and administrators to make the changes required for the effective use of technology. These usually involve failure to provide time, resources, and rewards for the development and implementation of technology-based courses and programs.

Recommendation 4: To gain economies of scale states, systems and voluntary consortia should pursue centralized services spanning multiple institutions.

The real question is not whether technology-based instruction *can* be cost-effective, but rather under what conditions it *is* cost-effective. The required conditions will vary from one situation to another, but in most cases, the scale of operation will be an important factor. The investments required for a technology-based course typically must be amortized over a larger number of students than for traditional courses. Also, major aspects of technology must be handled on a centralized (institutional, regional, or state) basis to achieve an acceptable economy. Examples include wide-area networking and the procurement and implementation of instructional management software. In addition, states and systems should consider centralizing or outsourcing a variety of student support services as recommended by the Student Services subcommittee.

Recommendation 5: State and system financing policy should accommodate new staffing patterns that are emerging in technology-based instruction.

Faculty roles and responsibilities are involved in many of the policy issues emanating from technology-based instruction. A model of technology-based instruction that conforms to the direction of many current discussions and change efforts would involve significant differences from the traditional model. For example, multiple sources of learning materials would be used, much of it not developed by the instructor. There would be multiple members of an instructional team, including support specialists in addition to the content specialists. Anytime, anyplace access would predominate. Obviously, faculty must be integrally involved in developing and implementing such changes. (see the DLPL report entitled *"Supporting Faculty in the use of Technology: A Guide to Principles, Policies and Implementation Strategies* by the Faculty Issues subcommittee.) Typically, incentives and

financial procedures are not currently in place for such changes. Nor are formulas built upon traditional student-faculty ratios necessarily relevant.

If significant distance learning and technology-based programs are anticipated in the educational strategic plan, preparations for changes in faculty roles should be made. Finance policy and decision makers should work, in advance, with academic administrators and faculty to consider developing guidelines and general procedures for requirements, such as instructional teams with new support staff, the acquisition of new types of instructional materials, intellectual property considerations, release time requirements, and anytime, anyplace access and support. New models for sharing faculty expertise that result in increased productivity and maintain quality control should be encouraged. Also, new approaches are needed to establish faculty workload arrangements that can work in large systems (many unionized) where the workload is tied to courses or contact hours and definitely presume that instruction is not unbundled.

> *Recommendation 6: States and institutions require good information on technology costs for decision-making and must establish appropriate means for collecting and comparing this information.*

Good cost information and routine methods of determining costs for technology currently do not exist in educational organizations. This must be addressed and probably will involve multiple approaches; for example special studies, accounting changes, routine cost-finding procedures, and collaborative regional or national research.

One of the issues in good cost assessment is "Whose costs should we be measuring?" Typically, all of the attention is given to the educational institution's costs, and tuition and fees. With technology changing possibilities, patterns, and opportunities, considering total student costs and/or state costs should become more prevalent. For example, incorporating technology into a course may increase institutional cost. But, if that allows remote students could not otherwise have access to the course without travel cost and lost work time, then total cost to the student may be less, even with increased tuition and fees.

Another issue in evaluating the cost-effectiveness of technology is whether the course is redesigned for technology use in an efficient way, rather than just plugging technology into the old model. Typically, the latter will always cost more. The former, as has been demonstrated in the private economy, can often result in both lower cost and increased effectiveness and quality.

The primary use of costing information should be for internal decision-making. Cost information may or may not suggest a "cost-recovery" business plan.

Much progress on these issues has been made over the past few years thanks to the *Technology Costing Methodology* project of the National Center for Higher Education Management Systems (NCHEMS) and Western Cooperative for Educational

Telecommunications (See Boeke, 2001 and Jones, 2001). The subcommittee strongly endorses this work and encourages its adoption.

> *Recommendation 7: State policy should provide institutions with the flexibility to make pricing decisions based on a business plan that reflects purpose, market, and knowledge of cost implications.*

Many issues arise regarding tuition and fees in distance learning and technology-based instruction. Resolving them will involve consideration of the purpose and objectives of the educational programs in addition to knowledge of cost and market implications.

Technology will enable a variety of approaches to a potentially wider assortment of learners who will be seeking and needing a diverse variety of educational services. This increased variety and diversity will make it more difficult to use a standard "one size fits all" approach to tuition and fees. It will be important to consider differential costs in selecting strategies and setting tuition and fees within a reasonable business plan.

In the case of out-of-state tuition, institutions and states may wish to consider a cost-based or market-based pricing approach, with no geographic differentiation. In some cases, out-of-state tuition represents the fully allocated cost of the course or educational program. In other cases, it is established on some other basis. For distance learning courses that have a broad geographic reach as an objective or even a necessity, requiring out-of-state tuition that may exceed actual cost is a barrier to success.

Consideration should be given to "unbundling" and re-pricing services and fees either in general or for students in particular programs or circumstances. Distance learning students, because of the distance factor as well as a wider variety of needs, often cannot or will not use standard services for which traditional students pay fees. By the same token, they may need other or different services than those used by traditional students.

As noted in other DLPL reports, states will need to intervene and explicitly subsidize programs that are socially viable, but cannot be supported by the market alone. For example, nursing and education are fields in which pay is relatively low but societal need is high.

> *Recommendation 8: Accountability should be a specific aspect of the plan for technology implementation and should be incorporated in the request for funding. Technology funding must be seen as an ongoing investment.*

Funds of significant amounts have been allocated to technology in education in recent years, and even greater amounts are needed if technology is to be as pervasive and to produce the benefits expected by many. Up to now, however, it has been difficult to show tangible, beneficial results in instruction, either in educational effectiveness or in productivity. In

many cases, accountability is not built into the plan; no specific measures or indicators of expected results are incorporated.

For technology funding to continue to be allocated as it needs to be, decision-makers will increasingly expect and require that results be assessed and reported. (Readers are referred to the recommendations made by the Quality Assurance subcommittee in the DPL report, *The Challenge of Quality Assurance in a Distance Learning Environment.*)

> *Recommendation 9: SREB, through the Educational Technology Cooperative and Distance Learning Policy Laboratory, should continue the work of the case studies by undertaking a formal, in-depth analysis of how each state in the region finances technology, and support, and for technology-based instruction, and should report and update these findings on a regular basis.*

While the four case studies conducted by the Finance subcommittee are helpful, they present an incomplete picture of the current state of technology and finance policy in the SREB states. More complete data need to be collected and, in effect, 12 additional "case studies" should be conducted to provide a full picture of the efforts across the region. It would be extremely beneficial to be able to identify common areas of interest: Where states are having difficulty implementing technology; what finance policies are successful; and what barriers states may face that are particular to their financial strategy or governance structure. A collection and reporting of the findings from such an effort, updated regularly to reflect changes in policy, should be targeted. The Educational Technology Cooperative and the Distance Learning Policy Laboratory are ideal vehicles for undertaking this work. Region-wide surveys, such as those conducted in other financing areas and in network development, may be one approach that SREB could take.

Concluding Comments

The optimum use of technology in distance learning and technology-based instruction will involve new and changed models of instructional delivery. Existing finance policies are so engrained in the traditional instruction model that making changes to support new technology-based models will require a systematic approach that is broad in scope. This is likely to occur only if distance learning and technology-based instruction are explicitly reflected as a part of the educational strategic plan. When technology is strategically financed, all necessary supporting mechanisms and policies follow and are arranged to support the stated objectives and priorities.

The recommendations outlined in this report are only a *first step* in transforming state and institutional financing policy. Much work remains to be done in developing more explicit factors and mechanisms to build into financing and budgeting practices. For example, acceptable measures of faculty workload and student effort (other than "seat time") that can be used to build budgets and finance policy still have not been developed.

The major focus by states and institutions should be on the integration of technology as appropriate to support the vision and core goals of the enterprise. This deployment must be carefully monitored to assure that technology is integrated on a broad scale in a cost-effective manner. One fact is certain: The requirement for more and better technology is not going to go away, and, in addition, we must not forget that personnel will continue to be our most resource- and cost-intensive component over time.

Obviously, these changes will be more difficult than just developing a well-stated set of objectives and priorities, as important as that is. A significant change process will be involved that will require eliminating barriers and developing appropriate incentives and rewards so that affected personnel recognize the need to change goals, policies, and behaviors to fully support educational technology

While the recommendations may seem self-evident in theory, most of the time they do not actually occur in practice. States face a significant challenge in changing longstanding cultures and implicit assumptions that drive and reward counterproductive behaviors. Too often, technology is viewed as a principal tool for transforming education, with little or no attention paid to the most costly and important aspects of change – the impact that change will ultimately have on those people whose job roles will be altered. Implementing change will require not only the purchase and implementation of technology infrastructure, but also a significant investment in staffing and training. While the issues are complex, sound, creative state and institutional finance policy can be a catalyst for advancing learning in the South and across the country.

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